



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,053	07/20/2000	Yang Cao	Cao-5	3581

7590 04/29/2004

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. BOX 8910  
RESTON, VA 20195

[REDACTED] EXAMINER

MOORE, IAN N

ART UNIT	PAPER NUMBER
2661	10

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/620,053	CAO, YANG	
	<b>Examiner</b>	<b>Art Unit</b>	
	Ian N Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-6 and 12-17 is/are rejected.
- 7) Claim(s) 7-11 and 18-27 is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. ____ .   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: ____ .                                   |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 12 are objected to because of the following informalities: Appropriate correction is required.
  - **Claim 1** recites "...the circuit switch fabric or packet switch fabric depending..." in line 6. For clarity, it is suggested to include a comma "," after "packet switch fabric" since the routing is depended upon both circuit switch fabric and packet switch fabric.
  - **Regarding Claim 12**, please see claim 1 above.

### *Claim Rejections - 35 USC § 112*

2. Claims 1 and 12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - **Claim 1** recites, "...a controller..." in line 4. Per FIG. 2, there are two types of controllers: Shelf Controller (label 226,224,228, or 230) and Resource Manager/Controller (label 202). Both types of controllers are responsible for routing/switching traffic in either the circuit switch fabric or packet switch fabric. Thus, it is unclear which/what particular controller is being configured to route/switch IP traffic.
  - **Regarding Claim 12**, please see claim 1 above.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Brueckheimer (U.S. 6,574,224).

**Regarding Claims 1 and 12,** Brueckheimer'224 discloses an apparatus (**see FIG. 1, Genetic Adaptation Technology Switch Architectural**), to perform a method of routing telecommunication traffic in a hybrid telecommunication switch comprising at least one circuit switch fabric (**see FIG. 1, a Voice/Circuit switch 25 or Label L2TP MPLS switch 27; note that label switching utilizes tunneling which must be predefined before establishing the connection/circuit, thus it is a circuit switch fabric since it switches the circuits/labeled paths/tunnels; see col. 6, lines 12-24, 48-65**); at lease one packet switch fabric (**see FIG. 1, a Data/Packet Switch 26 or Label L2TP MPLS switch 27; note that label switching routes the labeled packets, thus it is also a packet switch fabric; see col. 6, lines 12-24, 66-67, col. 7, lines 1-18**); and a controller (**see FIG. 2, Adaptation and DSP modules 32 control the switching/routing; see col. 7, lines 30-41**), and the method including the step of: routing IP traffic (**see FIG. 1, routing/switching IP traffic from either MPEG-TS Mux 22, UDP/IP SONET framer 23, or UDP/IP Ethernet device**) to the circuit switch

Art Unit: 2661

fabric (see FIG. 1, a Voice/Circuit switch 25 or Label L2TP MPLS switch 27) or packet switch fabric (see FIG. 1, a Data/Packet Switch 26 or Label L2TP MPLS switch 27) depending on an ATM service category of IP traffic (see FIG. 1, switching/routing based upon ATM's AAL services category types (i.e. AAL 1, 2, and/or 5) between the switches and interface devices; note that MPEG-TS switches AAL 1 towards voice/circuit switch or data/packet switch; see col. 5, lines 51 to col. 6, lines 32, 46-67, col. 7, lines 1-25).

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-6 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brueckheimer'224 in view of Catellano (U.S. 6,674,750).

**Regarding claims 2 and 13,** Brueckheimer'224 discloses the controller provisioning/configuring/assigning the circuit switch fabric resources/resource-modules for circuit switched traffic and IP traffic, as the controller routing IP traffic to the circuit switch fabric as described above in claim 1 and 12.

Brueckheimer'224 does not explicitly disclose provisioning a portion of the resources for circuit switched traffic, and allocating the remaining portion of the resources to packet-switched/IP traffic.

However, the above-mentioned claimed limitations are taught by Catellano'750. In particular, Catellano'750 teaches provisioning a portion of the circuit switch fabric resources for circuit switched traffic (**see col. 7, lines 23-27; note that portion of the data/traffic transmission bandwidth/resources are dedicated/provisioned for TDM traffic/data transmission**), and

allocating the remaining portion of the circuit switch fabric resources to packet switched traffic (see col. 7, lines 27-29; **note that the remaining portion of the data/traffic transmission bandwidth/resources are dedicated/provisioned for packet traffic/data transmission**).

In view of this, having the system of Brueckheimer'224 and then given the teaching of Catellano'750, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brueckheimer'224, for the purpose of providing a mechanism to share bandwidth between TDM and packet switching transmission, as taught by Catellano'750, since Catellano'750 states the advantages/benefits at col. 6, lines 1-10 and col. 7, lines 31-35 that, it would provide predefined bandwidth allocation since the packet data/traffic transmission no longer has to suspend due to TDM data/traffic transmission. The motivation being that by assigning/provisioning bandwidth/resources to each traffic type, it can reduce the delay and increase throughput since one traffic type transmission no longer need to suspend while the other type is transmitting.

**Regarding claims 3,** Brueckheimer'224 discloses wherein the controller is configured/allocated/provisioned/assigned circuit switch fabric resources/resource-modules to traffic falling within an ATM service category (see FIG. 1, switching/routing based upon ATM's AAL services category types (i.e. AAL 1, 2, and/or 5) between the switches; see col. 5, lines 51 to col. 6, lines 32, 46-67, col. 7, lines 1-25; note that resources/resource-modules are assigned based upon the traffic/data within ATM AAL categories). Catellano'750 teaches allocating circuit switch fabric resources to traffic as described above in claim 2.

In view of this, having the system of Brueckheimer'224 and then given the teaching of Catellano'750, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brueckheimer'224, for the purpose of providing a mechanism to sharing bandwidth between TDM and packet switching transmission by allocating bandwidth resources, as taught by Catellano'750, for the same motivation that stated above in Claim 2.

**Regarding claim 14,** Brueckheimer'224 discloses configuring/allocating/provisioning/assigning circuit switch fabric resources/resource-modules to IP traffic as described above in claim 12. Also, Catellano'750 teaches allocating circuit switch fabric resources to packet traffic as described above in claim 13.

In view of this, having the system of Brueckheimer'224 and then given the teaching of Catellano'750, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Brueckheimer'224, for the purpose of

providing a mechanism to allocate resources/bandwidth to packet/IP traffic/data transmission, as taught by Catellano'750, for the same motivation that stated above in Claim 13.

**Regarding claims 4 and 15,** Brueckheimer'224 discloses routing IP traffic associated with a CBR ATM service category (**see FIG. 1, AAL 1 traffic/data in Voice Switch 25; FIG. 14, voice AAL 1 in AAL/IP interworking module; or FIG. 7, voice AAL 1 in VoIP AAL interworking module**) to the circuit switch fabric (see col. 6, lines 47-65; note that **IP traffic/data is related/associated with AAL 1 (i.e. CBR category) and routed toward the voice switch/AAL/IP interworking module**).

**Regarding claims 5 and 16,** Brueckheimer'224 discloses routing IP traffic associated with a rt-VBR ATM service category (**see FIG. 1, AAL 2 traffic/data in Voice Switch 25; FIG. 14, voice AAL 2 in AAL/IP interworking module; or FIG. 7, voice AAL 2 in VoIP AAL interworking module**) to the circuit switch fabric (see col. 6, lines 47-65; note that **IP traffic/data is related/associated with AAL 2 (i.e. real time VBR category) and routed toward the voice switch/AAL/IP interworking module**).

**Regarding claims 6 and 17,** Brueckheimer'224 discloses routing IP traffic associated with an ATM service category which is neither CBR nor rt-VBR traffic (**see FIG. 1, AAL 5 traffic/data in Data/Packet Switch 26; FIG. 14, AAL 5 in AAL/IP interworking module; or FIG. 7, AAL 5 in VoIP AAL interworking module**) to the IP switch fabric (see col. 6,

**lines 47-65; note that IP traffic/data is related/associated with AAL 5 (i.e. neither CBR nor real time VBR category) and routed toward the data switch/AAL/IP interworking module).**

*Allowable Subject Matter*

5. Claims 7-11,18-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2661

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 703-605-1531. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on 703-308-7828. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM  
4/27/04



KENNETH VANDERPUYE  
PRIMARY EXAMINER